DIRECT SHEAR TEST

(Specimen Data)

Date _____

Project _____

Boring No. _____ Sample No. _____

Shear Box No.	Normal Stress T/sq ft
Specimen No.	Classification

			Before Test			After Test
			Specimen	Trimmings		Specimen
Tare No.			Cutter and Glass Plates			
Weight in grams	Tare plus wet soil					
	Tare plus dry soil					
	Water	W_w		W_{wo}		W_{wf}
	Tare					
	Wet Soil	W				
	Dry Soil	W_s				
Water content		W		W_o		W_f

Initial Condition of Specimen

Area in sq cm	A		Volume of solids in cc	V_s	
Height in cm	H_o		Void ratio = $(V_o - V_s) \div V_s$	e_o	
Volume in cc = A x H_o	V_o		Saturation, %	S_o	
Specific gravity of solids	G_s		Dry density in lb/cu ft	γ_d	

Condition of Specimen After Consolidation

Change in height during consolidation, in.	ΔH_o		Volume in cc = A X H_c	V_c	
Height in cm = H_o - 2.54ΔH_o	H_c		Void ratio = $(V_c - V_s) \div V_s$	e_c	

Condition of Specimen After Test

Change in height during shear test, in.	ΔH		Volume in cc = A X H_f	V_f	
Height in cm = H_c - 2.54ΔH	H_f		Void ratio = $(V_f - V_s) \div V_s$	e_f	
Saturation, %	S_f				

$$W_s = \frac{W}{1 + \frac{W_o}{100}}, \quad V_s = \frac{W_s}{G_s}, \quad S_o = \frac{\frac{W_o}{100} \times \frac{W_s}{\gamma_w}}{V_o - V_s} \times 100, \quad S_f = \frac{\frac{W_f}{100} \times \frac{W_s}{\gamma_w}}{V_f - V_s} \times 100, \quad \gamma_d = \frac{W_s}{V_o} \times 62.4$$

Remarks _____

Technician _____ Computed by _____ Checked by _____